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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,033	10/15/2001	Fumio Tamura	040894-5732	1603

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EXAMINER	
NG, EUNICE	

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2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/976,033	TAMURA, FUMIO	
	Examiner	Art Unit	
	Eunice Ng	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the Office Action mailed 12/5/06, Applicants have submitted an Amendment, filed 2/28/07, without amending claims, and arguing to traverse claim rejections.

Response to Arguments

2. Applicant's arguments filed 2/28/07 have been fully considered but they are not persuasive.

Brotman and Ohmori in combination teach when a plurality of object words that are the same or similar to each other are recognized by said recognition means, a limiting word for distinguishing between said plurality of object words is automatically sampled from said spot information memory means at the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words and stored as an object word corresponding to said limiting word in said storage means.

As discussed in the previous Office Action, Brotman teaches street names and street number ranges are indexed up by zip code, for example in Table 2, under Zip code 21405 are stored names "Blaine Street", "Maine street", etc., the information being organized in a level structure (col. 5, ll. 1-29). More specifically, in col. 5, ll. 19-29, Brotman teaches, "Speech recognizer uses the street numbers range field in Table 1 or 2 to resolve ambiguities between address identifies located within the same zip code. For example, the range of street numbers [lower level] is considered in differentiating street names that rhyme or sound alike such as Main and Blaine [object words same or similar to each other]." The range of street numbers suggests

the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words.

While Brotman does not explicitly teach the limiting word for distinguishing is sampled "at the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words," this feature would have been obvious given the teaching elements of Ohmori which also teaches a level structure. Ohmori teaches "target information is classified by an attribute tree formed by a plurality of hierarchical levels. Lower level attributes have a greater possibility of having the number of attribute values that exceeds the number that can be processed within the dialogue processing time" (col. 1, ll. 46-52). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to sample the limiting word for distinguishing at the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words because while target information can be ascertained quicker if lower level attribute values are ascertained first, lower level attributes have a greater possibility of causing problems with processing time, as described by Ohmori, above.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brotman *et al.* (hereinafter "Brotman"), US Patent No. 6,236,967 in view of Ohmori *et al.* (hereinafter "Ohmori"), US Patent No. 6,885,990.

Regarding claims 1, 7 and 9, Brotman teaches a method and apparatus for speech recognition comprising:

speech input means for inputting speech (speech data, col. 6, ll. 53-57; abstract, ll. 5-6 teaches "receiving a spoken zip code from a user");

spot information memory means for storing information relative to spots (street names, street numbers and zip codes, Fig. 1, element 109 and col. 4, l. 31 – col. 5, l. 19);

storage means for storing object words indicative of spots within said spot information memory means (recognized address, Fig. 1, element 110 and col. 6, ll. 3-9);

computing means for acquiring similarities between the speech inputting from said speech input means and the object words stored in said storage means (matching, col. 5, ll. 64-67; abstract, ll. 5-6, teaches "[a]fter receiving a spoken zip code from a user, the corresponding list of address identifiers is retrieved"; ll. 9-11, "[t]hese plurality of choices contain words that rhyme with or sound like other address identifiers located in the retrieval group of address identifiers", ll. 13-15, "the system queries the database for a match between the spoken address identifier and the stored address identifier"); and

recognition means for recognizing the speech corresponding to one of the object words from the similarities acquired by said computing means (Fig. 1, element 108 and col. 4, ll. 13-41),

wherein when a plurality of object words are recognized (rhyme or sound alike) by said recognition means, a limiting word (range of street numbers) for distinguishing between said plurality of object words is sampled from said spot information memory means and stored as an object word corresponding to said limiting word in said storage means (col. 5, ll. 20-29 and col. 6, ll. 6-7), and

wherein the object word corresponding to said limiting word is recognized as speech (col. 7, ll. 10-38).

Brotman teaches street names and street number ranges are indexed up by zip code, for example in Table 2, under Zip code 21405 are stored names "Blaine Street", "Maine street", etc., the information being organized in a level structure (col. 5, ll. 1-29). More specifically, in col. 5, ll. 19-29, Brotman teaches, "Speech recognizer uses the street numbers range field in Table 1 or 2 to resolve ambiguities between address identifies located within the same zip code. For example, the range of street numbers [lower level] is considered in differentiating street names that rhyme or sound alike such as Main and Blaine [object words same or similar to each other]." The range of street numbers suggests the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words.

While Brotman does not explicitly teach the limiting word for distinguishing is sampled "at the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words," this feature would have been obvious given the teaching elements of Ohmori which also teaches a level structure (Fig. 4). Ohmori teaches "target information is classified by an attribute tree formed by a plurality of hierarchical levels. Lower level attributes have a greater possibility of having the number of attribute values that exceeds the number that can be processed within the dialogue processing time" (col. 1, ll. 46-52). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to sample the limiting word for distinguishing at the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words because while target information can be ascertained quicker if lower level attribute

values are ascertained first, lower level attributes have a greater possibility of causing problems with processing time, as described by Ohmori, above.

Regarding claims 2 and 10, Brotman teaches an apparatus for speech recognition comprising:

speech input means for inputting speech (speech data, col. 6, ll. 53-57; abstract, ll. 5-6 teaches "receiving a spoken zip code from a user");

storage means for storing object words indicative of spots within said spot information memory means (street names, street numbers and zip codes, Fig. 1, element 109 and col. 4, l. 31 – col. 5, l. 19);

spot information memory means for storing information relative to spots (recognized address, Fig. 1, element 110 and col. 6, ll. 3-9);

output means for producing a request message (prompt) urging a user to input said object words (Fig. 4, step 401);

computing means for acquiring similarities between speech inputted from said speech input means and the object words stored in said storage means (matching, col. 5, ll. 64-67; abstract, ll. 5-6, teaches "[a]fter receiving a spoken zip code from a user, the corresponding list of address identifiers is retrieved"; ll. 9-11, "[t]hese plurality of choices contain words that rhyme with or sound like other address identifiers located in the retrieval group of address identifiers", ll. 13-15, "the system queries the database for a match between the spoken address identifier and the stored address identifier"); and

recognition means for recognizing the speech corresponding to one of the object words from the similarities acquired by said computing means (Fig. 1, element 108 and col. 4, ll. 13-41),

wherein when a plurality of object words are recognized (rhyme or sound alike) by said recognition means, a limiting word (address identifier) for distinguishing between said plurality of object words is sampled from said spot information memory means and stored as an object word (recognized address) corresponding to said limiting word in said storage means (col. 5, ll. 20-29 and col. 6, ll. 5-9),

wherein the limiting word is produced as the request message (prompt) by said output means (col. 7, ll. 10-33), and

wherein the object word corresponding to said limiting word is recognized as speech (col. 7, ll. 10-38).

Brotman teaches street names and street number ranges are indexed up by zip code, for example in Table 2, under Zip code 21405 are stored names "Blaine Street", "Maine street", etc., the information being organized in a level structure (col. 5, ll. 1-29). More specifically, in col. 5, ll. 19-29, Brotman teaches, "Speech recognizer uses the street numbers range field in Table 1 or 2 to resolve ambiguities between address identifies located within the same zip code. For example, the range of street numbers [lower level] is considered in differentiating street names that rhyme or sound alike such as Main and Blaine [object words same or similar to each other]." The range of street numbers suggests the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words.

While Brotman does not explicitly teach the limiting word for distinguishing is sampled "at the highest level of said level structure that is capable of uniquely determining an object word

from said plurality of object words," this feature would have been obvious given the teaching elements of Ohmori which also teaches a level structure (Fig. 4). Ohmori teaches "target information is classified by an attribute tree formed by a plurality of hierarchical levels. Lower level attributes have a greater possibility of having the number of attribute values that exceeds the number that can be processed within the dialogue processing time" (col. 1, ll. 46-52). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to sample the limiting word for distinguishing at the highest level of said level structure that is capable of uniquely determining an object word from said plurality of object words because while target information can be ascertained quicker if lower level attribute values are ascertained first, lower level attributes have a greater possibility of causing problems with processing time, as described by Ohmori, above.

Regarding claims 3 and 11, Brotman teaches wherein said spot information memory means stores, as information relative to spots, a plurality of facility names and detailed classifying information and rough classifying information to which each facility name belongs which are correlated with each other (street names, street numbers and zip codes, Fig. 1, element 109 and col. 4, l. 31 – col. 5, l. 19).

Regarding claims 4 and 12, Brotman teaches wherein when the plurality of object words are recognized (rhyme or sound alike) by said recognition means, a limiting word (street name) for distinguishing said plurality of object words is sampled from said spot information memory means and stored as the object word in said storage means (col. 5, ll. 20-29 and col. 6, ll. 6-7), and

wherein when said plurality of object words are distinguished from one another in terms of rough classifying information (within same zip code), only one at a higher level of the object words corresponding to the limiting word (street name) is produced as a request voice by said output means and the object word corresponding to said limiting word is recognized as speech (col. 5, ll. 20-29 and col. 6, ll. 6-7).

Regarding claims 5, 6, 13 and 14, Brotman teaches wherein said recognition means recognizes an object word with similarity within a prescribed range, acquired by said computing means, as the recognized object word (col. 5, ll. 20-29).

Regarding claim 8, Brotman teaches: producing a request message urging a user to input said object words (Fig. 4, step 401); and producing the limiting word as the request message (voice prompt) (col. 7, ll. 10-33).

The rest of the limitations of claim 8 are the same as or similar to those of claims 1, 7 and 9, rejected above, and thus are rejected for the same reasons.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunice Ng whose telephone number is 571-272-2854. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EN
5/16/07

TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER